

B R E V I O R A

Museum of Comparative Zoology

CAMBRIDGE, MASS.

AUGUST 9, 1957

NUMBER 79

DASYPELTIS MEDICI LAMUENSIS, A NEW RACE OF EGG-EATING SNAKE (OPHIDIA, REPTILIA) FROM COASTAL EAST AFRICA

BY CARL GANS

Museum of Comparative Zoology and Carnegie Museum, Pittsburgh, Pa.

Some time ago an analysis of the African egg-eating snakes of the genus *Dasypeltis* indicated the presence of an undescribed race from coastal East Africa. However, as the entire revision of this genus will not be published for several months, I am describing the new race here in order that Mr. Arthur Loveridge may include it in his checklist of the reptiles and amphibians of East Africa, which is now in press.

In 1942, Loveridge revived *Dasypeltis medici* as a subspecies of the wide-ranging *D. scabra*. Examination of additional specimens from supplementary localities convinced me that two forms are involved, and furthermore that *D. scabra* and *medici*, though sympatric in many areas, are distinct species which, besides their color patterns, show differences in a number of other characters. Among these are ventral and caudal counts of both male and female species, body proportions, etc.

In his 1942 paper Loveridge mentioned in passing that northern specimens of *medici* were unicolored and did not possess the characteristic color pattern upon the basis of which this species was initially described by Bianconi. The "uniform" coloration has been found to be associated with significantly lower ventral counts and the northern specimens are here recognized as a distinct race.

The detailed acknowledgments to the many who helped with the analysis will be given in the main paper. Here I restrict myself to thanking Ernest E. Williams and Arthur Loveridge

of the Museum of Comparative Zoology (MCZ) for checking this paper, the John Simon Guggenheim and National Science Foundations for supporting the research upon which this paper

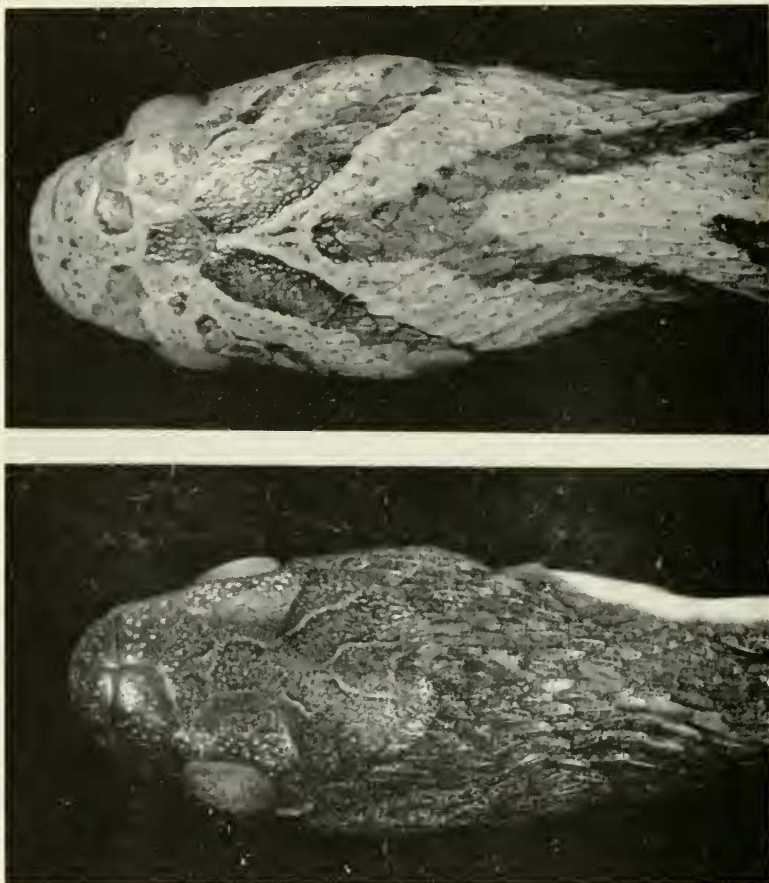


Figure 1. *Dasypeltis medici*. Dorsal views showing pattern atop head. *Top.* *D. m. medici* — BM 12-1-30-6 from Matemo, Mozambique. *Bottom.* *D. m. lamuensis* — BM 51-1-3-73 from Kilifi, Kenya. Note that the pattern is almost completely faded out on the parietal scales of *lamuensis*, and has disappeared in the nuchal region. The pustulosity or pitting on the head shields and the dark pigmentation of the pits is clearly apparent.

is based, and Mr. J. C. Battersby of the British Museum (Natural History), London (BM), as well as Dr. Heinz Wermuth of the Zoologischen Museums der Universität, Berlin (ZMU), for the loan of paratype material.

DASYPELTIS MEDICI (Bianconi), 1859

1. Pattern, consisting of narrow lateral bars (of which at least the first three to eight fuse to form narrow Vs on the nape), extends the entire length of snake from the head on to the tail; ventrals more than 229 in males, more than 236 in females. *D. m. medici*.
2. Pattern, if present, restricted to top of head (see Fig. 1); ventrals 229 or less in males, less than 233 in females. *D. m. lamuensis*.

DASYPELTIS MEDICI MEDICI (Bianconi), 1859

Dipsas Medici Bianconi, 1859, p. 277. No locality designated, but Mozambique by inference. Type in Bologna Museum.

Dasyveltis scaber var. *fasciolata* Peters, 1868, p. 451. Type (ZMU 5737) from "Angeblich aus Zanzibar".

Dasyveltis elongata Mocquard, 1888, p. 131. Type locality: Zanzibar. Type in Museum d'Histoire Naturelle, Paris.

Diagnosis. Three to eight narrow Vs commencing on the nape, followed by a series of narrow, lateral, dark red-brown bars. These bars will encircle a pink to silvery-white vertebral dot, if they coalesce with their fellows from the opposite flank. In some specimens the posterior bands are situated between more or less clearly expressed oval dorsal saddles, while various intermediate patterns (see Fig. 2) have also been observed. The dorsum is a light reddish-brown, which shows a considerable amount of mottling under the binocular microscope. The apical scale pits, as well as those of the head region, are a dark brown, this pigmentation being found on all scales and very sharply set off. The ventrum is a clear pink, more or less regularly stippled with grey. Beneath the tail of many specimens, particularly in males, this stippling is arranged in two to four lines. In other individuals, however, the distribution of the stippling appears to be haphazard. Three lateral scale rows are definitely reduced and inclined, and they, as well as some of the adjacent rows, generally have strongly serrated keels. The frontals show pitting or pustulosity over their entire surface as do most of the other cephalic scales (see Fig. 1). The inter-prefrontal suture is not

depressed. Ventrals in males 235-253, in females 237-259; caudals 82-109 and 71-80, respectively.

Range. Coastal East Africa. Extreme southern Kenya, Tanganyika, northern and central Mozambique; inland to Nyasaland.

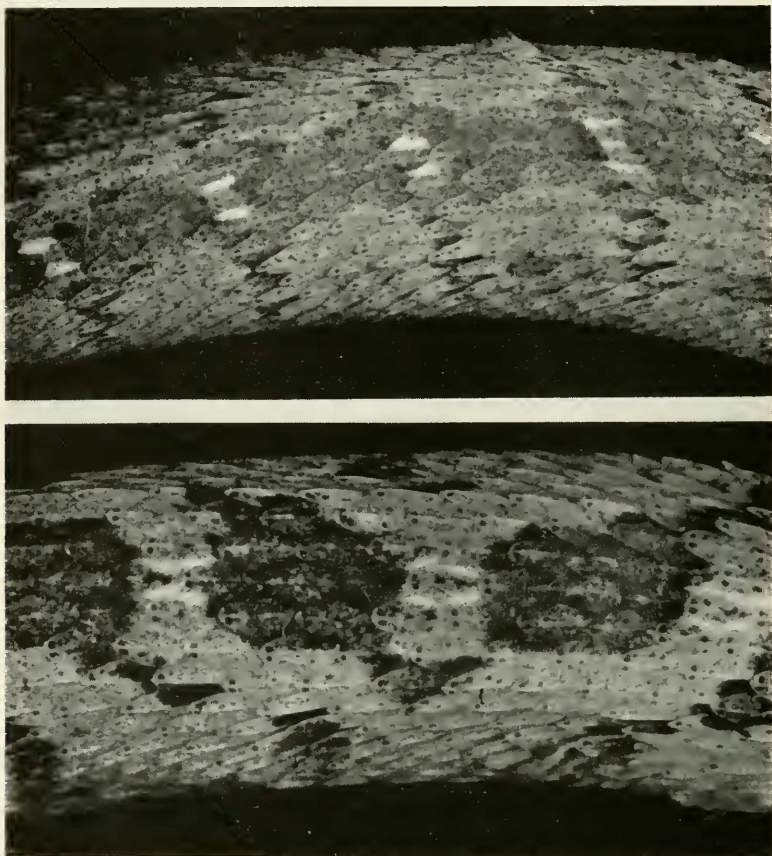


Figure 2. *Dasypeltis m. medici*. Dorsal views at midbody showing color pattern variants of this race. *Top.* BM 12-1-30-6 from Matemo, Mozambique. *Bottom.* BM 97-6-9-106 from between Nkata Bay and Ruarwe, Nyasaland. Note lighter middorsal spots between the saddles, the regular pigmentation of the apical scale pits, and the general speckling of the ground color.

Distribution records. (Map 1 shows the relation of these localities to each other. Records from the literature are starred.) KENYA: Takaungu. Between Voi and Ndi, Taita. TANGANYIKA: Zanzibar Coast. Kibongoto' Kilimanjaro (Intergrade? specimen¹). Amani, Usambara Mts. Usambara. Makindu River. Morogoro. Nyange, Uhuguru Mts. Northern Ukutu (Kuthu) Steppe. Tendaguru. Mikindani. Nchingidi. Liwale. ZANZIBAR. MAFIA. MOZAMBIQUE: Matemo. Ribáuè, Nyassa Prov. NYASALAND: Between Nkata Bay and Ruarwe. Zomba. Cholo Mtn.

DASYPELTIS MEDICI LAMUENSIS Subsp. nov.

Dasypteltis palmarum Peters (not of Leach), 1878, p. 206. 1 ex. Taita, Kenya (J. M. Hildebrandt): ZMU.

Dasypteltis scabra var. F (part), Boulenger, 1894, p. 356. 1 ex. Mt. Kilimanjaro, Tanganyika (F. J. Jackson): BM.

Dasypteltis scaber Uthmüller (part), 1934, p. 113. 1 ex. nr. Gomberi, Kilimanjaro, Tanganyika (Uthmüller): Zool. Staatssammlung, München.

Dasypteltis scaber Loveridge (part), 1936, p. 256. 1 ex. Mt. Mbololo; 2 ex. Lamu Island, Kenya (Loveridge): MCZ.

Dasypteltis scaber Scortecchi (part), 1939, p. 276. 1 ex. Belet Amin, Ital. Somaliland = Somalia (S. Patrizi): Genoa Civ. Mus. Stated to be uniform grey dorsally.

Dasypteltis scaber medici Loveridge (part), 1942, p. 283. Mention of uniformly colored northeastern material: MCZ.

Diagnosis. Uniform reddish-brown dorsally, fading to buff in some specimens after preservation (Loveridge). Pink ventrally with a fine speckle of a slightly darker pinkish-brown denser on the sides (Fig. 4, bottom). Some specimens are a uniform olive grey, fading to a plumbeous grey after preservation. These have a light grey ventrum, minutely flecked with white. A vague or distinct mottling of the ground color may be seen under the binocular microscope (see Fig. 4, top). Apical pits of body and marginal pits of head scales distinctly pigmented with a darker reddish-brown (see Fig. 1). With proper illumination faint to clear V-shaped markings can be discerned on the parietal scales of some specimens. Three lateral scale rows are distinctly reduced and inclined, and they, as well as several of the adjacent rows,

¹ The status of this specimen is discussed below and its data are not included in the above ranges for this subspecies.

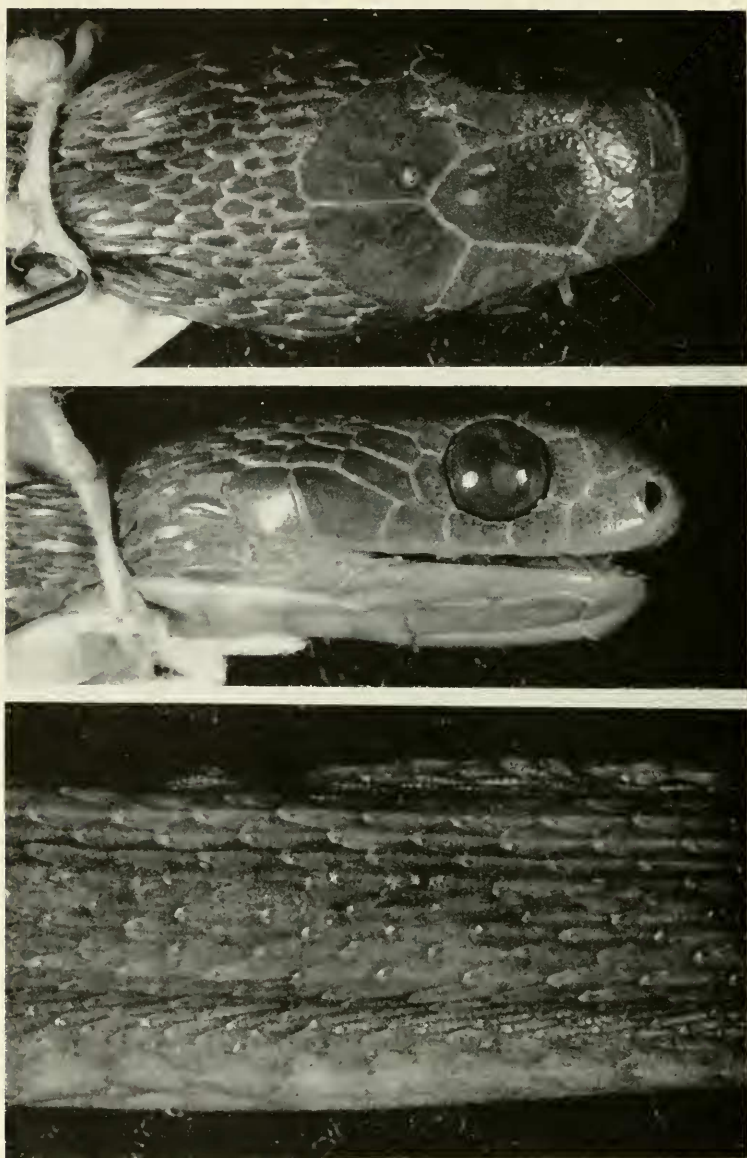


Figure 3

generally have strongly serrated keels. Each frontal scale shows pustulosity or pitting around the periphery and in the center. The suture between the prefrontals is not depressed. Ventrals in males 226-229, in females 226-232; caudals 84-94 and 72-84, respectively.

Holotype. Museum of Comparative Zoology No. 40582, an adult male from Lamu Island, Kenya, collected by Arthur Loveridge 12 May 1934.

Allotype. Museum of Comparative Zoology No. 40583, an adult female collected with the type.

Paratypes. British Museum (Natural History) Nos. 51-1-3-72 and 51-1-3-73 from Kilifi, north of Mombasa, Kenya. Also British Museum (Natural History) No. 98-1-8-15 from Maungu, near Voi, Kenya; Museum of Comparative Zoology No. 40580 from Mt. Mbololo, Kenya; Zoologisches Museum der Universität (Berlin) No. 9244 from Taita (region), Kenya; and British Museum (Natural History) No. 87-11-3-31 from Mt. Kilimanjaro, Tanganyika.

Description. Both the Lamu holotype and allotype are a uniform brownish-red dorsally, and a speckled pink on the venter. Under proper illumination a very faint, posteriorly-directed V may be discerned on the parietal scales (see Fig. 3, top). Scale pits on head and body with sharply defined darker brown pigmentation, though this is only slightly darker than the dorsal color (Fig. 3, bottom) and not as clearly visible as on lighter specimens (Fig. 4, middle). The frontals are pitted around their margins and pustules are also present in their centers, with the other head shields showing a similar pattern. The suture between the prefrontals is not depressed, the ocular-temporal formula is $1+2+2+3$, and the upper labials and eye contact are 7(34). Counts of ventrals are 226 for both type and allotype, caudals are 94 and 84, dorsals 23 and 24 at midbody respectively. The third, fourth and fifth rows of dorsal scales from each side are reduced, inclined and serrated, and the keels of the dorsal

Figure 3. *Dasypteltis m. lamuensis*. Views of the holotype (MCZ 40582). *Top*. Dorsal view of head. *Middle*. Lateral view of head. *Bottom*. Dorso-lateral view of specimen in the midbody region. Note the very faint pattern on the parietals, and the fact that the prefrontals, oculars, anterior labials, etc. are covered with pigmented pits.

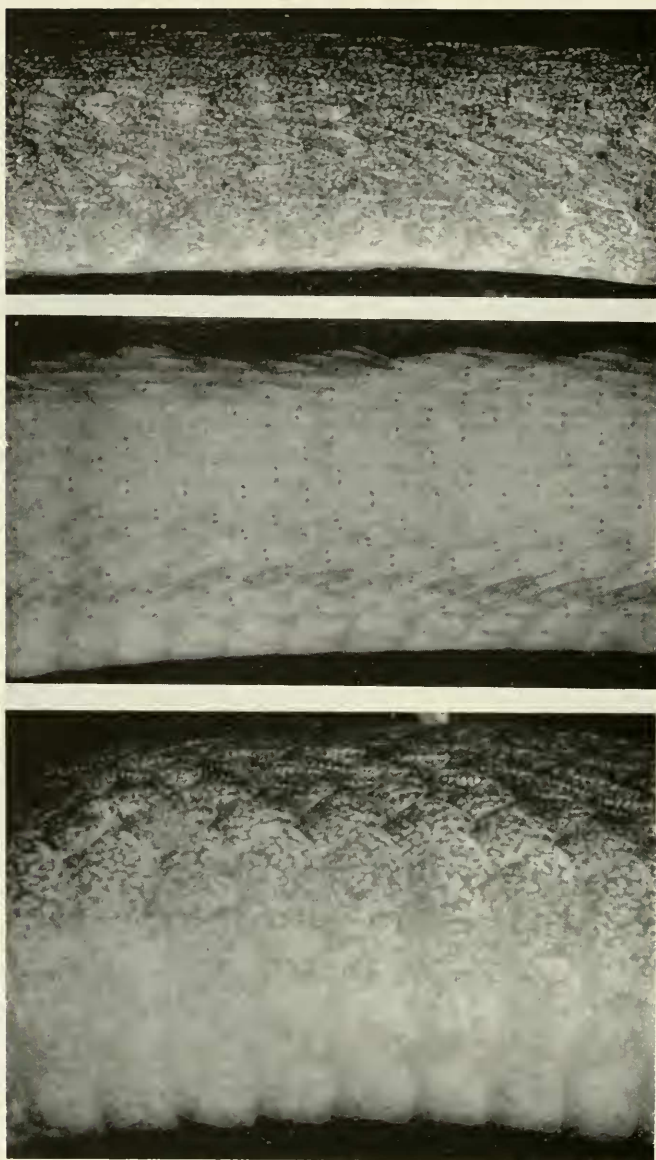


Figure 4

scales are serrated around the body in the anal region of the type, but not of the paratype. Body and tail lengths are 493+132 mm. and 570+128 mm. respectively.

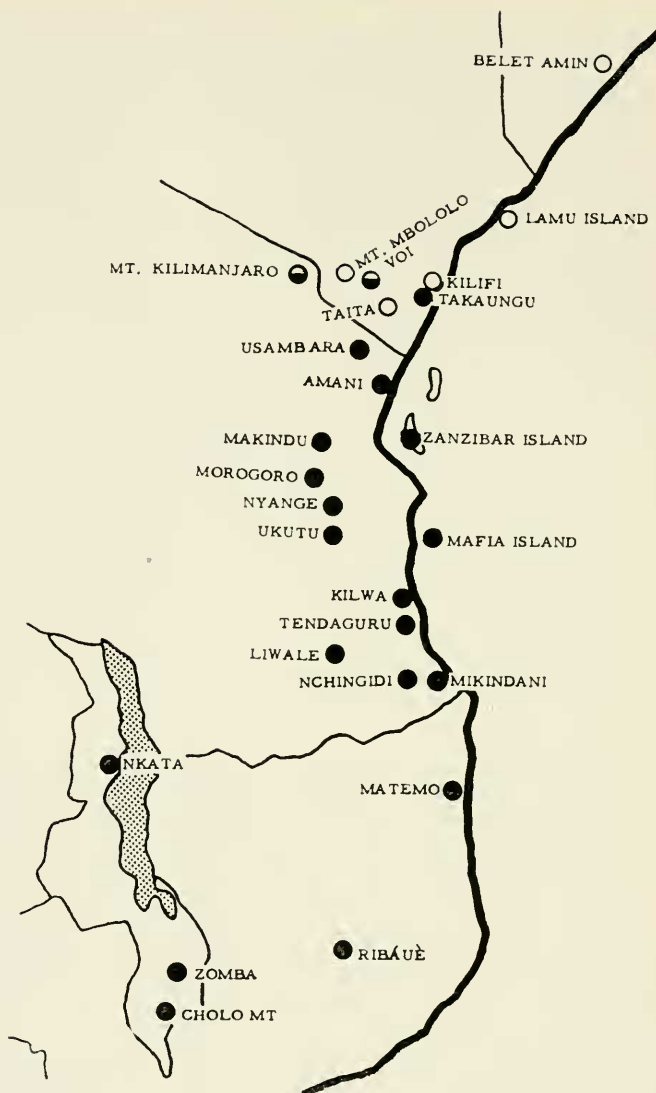
Range. Coastal East Africa from Somalia south to the Kenya-Tanganyika frontier.

Distribution records. SOMALIA: Belet Amin (Scortecchi, 1939). KENYA: Lamu Island (Loveridge, 1936); MCZ 40582, 40583. Kilifi, north of Mombasa. BM 51-1-3-72, 51-1-3-73. Maungu near Voi. BM 98-1-8-15. Mt. Mbololo (Loveridge, 1936); MCZ 40580. Taita (Peters, 1878); ZMU 9244. TANGANYIKA: Mt. Kilimanjaro (Boulenger, 1894); BM 87-11-3-31. Near Gomberi, Mt. Kilimanjaro (Uthmüller, 1934).

Discussion. The map shows the relative position of collecting localities for both patterned and unicolored forms of *D. medici*. The species appears to be restricted to the coastal regions below 1000 meters, generally characterized by their reddish laterite soils (Loveridge, 1942). As may be seen from the map, all but two of the Kenya specimens are definitely unicolored. Pattern is present in the Voi-Ndi juvenile, but the Takaungu individual is an almost completely faded adult, which lacks even the pigmentation of the apical pits so characteristic of the species. Two of the three specimens from the vicinity of Mt. Kilimanjaro (seen, or reported on in the literature) were unicolored, while the dorsal pattern of the third is faded out posteriorly. All other specimens and records from Tanganyika have, or are said to have, a color pattern.

Of the other characters examined only ventral counts show clinal variation. Figure 5 demonstrates these counts for male and female specimens of the two color phases, showing the sharply

Figure 4. *Dasypeltis m. lamuensis*. Views of the midbody region of different specimens to demonstrate certain characteristics of the pigmentation. *Top.* BM 51-1-3-73 from Kilifi, Kenya. Lateral view of dark grey specimen, showing the extensive speckling of the ground color, which almost masks the pigmentation of the apical pits. *Middle.* BM 98-1-8-15 from Maungu, Kenya. Lateral view of light colored specimen which clearly shows both pigmentation of apical pits and lateral scale arrangement. Note that the ground color is still speckled. *Bottom.* BM 51-1-3-72 from Kilifi, Kenya. Ventrolateral view of specimen showing color invasion and speckling of light colored ventrum.



Dasypeltis medici. Map showing localities for all specimens actually examined as well as for the literature record from Belet Amin. Solid dots stand for records of *m. medici*, open circles for records of *m. lamuensis*. Divided circles refer to the pairs of immediately adjacent records discussed in the text.

distinct ranges. The only exception is furnished by the faintly patterned specimen from Kibongoto' Kilimanjaro. This has a ventral count of 218, i.e. 8 less than the lowest count for a unicolored specimen and 19 less than the lowest count for a patterned specimen.

In view of the fact that the two populations replace each other geographically, that they differ in two characters which break in the same zone, and that there exists a possibly intermediate specimen from a geographically intermediate region, they are here considered to be subspecifically distinct. This decision has been

MALES

lamuensis

medici

FEMALES

lamuensis

medici

KIBONGOTO



Figure 5. *Dasypeltis medici*. Graph showing ventral counts of all specimens of the two races actually examined. Note the anomalous count of the Kibongoto specimen.

consciously influenced by a desire to focus attention upon this population in the hope that this will permit re-examination of the matter on the basis of more nearly adequate collections.

It has been suggested that this situation represents two adjacent species and that the patterned Kilimanjaro specimen is a hybrid. While the material is insufficient to decide the point, there is some evidence against this idea. Thus both of these color patterns feature a sharply defined pigmentation of the apical scale pits and are the only forms within the genus that have this characteristic. Besides which, 45 out of 46 specimens of the combined sample have frontals that are entirely, rather than marginally, pustulated or pitted, a frequency not approached by any other population, with the exception of *Dasypeltis scabra* from South Africa. In view of these facts and in the absence of more detailed data, the two forms are considered to belong to a single polytypic species.

LITERATURE CITED

BIANCONI, J. JOSEPH

- 1850- Specimina Zoologica Mosambicana. Bononiae, fase. 1-16, ii
1862. +406(?) pp., (fase. 14 (1859), pp. 277-278, tab. 14). First
published in parts in Mem. R. Accad. Sci. Inst. Bologna. (Vol.
10, pp. 501-2, pl. 26.)

BOULENGER, GEORGE ALBERT

1894. Catalogue of the snakes in the British Museum (Natural History). Volume II, containing the conclusion of the Colubridae Aglyphae. London, xi +382 pp. (353-357).

LOVERIDGE, ARTHUR

1936. Scientific results of an expedition to rain forest regions in Eastern Africa. V. Reptiles. Bull. Mus. Comp. Zool., vol. 79, no. 5, pp. 209-337 (256-57, pl. 4, fig. 1).
1942. Scientific results of a fourth expedition to forested areas in East and Central Africa. IV. Reptiles. Bull. Mus. Comp. Zool., vol. 91, no. 4, pp. 237-373 (282-86).

MOCQUARD, FRANÇOIS

1888. Sur une collection de reptiles et de batraciens rapportés des Pays Comalis et de Zanzibar par M. G. Révoil. Mem. publ. Soc. Philomat. Occas. Centenaire Foundation, pp. 109-134 (131, plate XII, figs. 2, 2a, 2b, 2c).

PETERS, WILHELM CARL HARTWIG

1868. Über eine neue Nagergattung, *Chiropodomys penicillatus*, so wie über einige neue oder weniger bekannte Amphibien und Fische. Monatsber. kgl. Akad. Wiss. Berlin, pp. 448-461 (451).
1878. Über die von Hrn. J. M. Hildebrandt während seiner letzten ostafrikanischen Reise gesammelten Säugethiere und Amphibien. Monatsber. könig. Preuss. Akad. Wiss. Berlin 1878, pp. 194-209 (206).

SCORTECCI, GIUSEPPE

1939. Spedizione zoologica del Marchese Saverio Patrizi nel Basso Giuba e nell'Oltregiuba. Giugno-Agosto 1934 XII. Rettili. Ofidi. Ann. Mus. Civ. Storia Nat. Genova, vol. 58, pp. 263-291 (276).

UTHMÖLLER, WOLFGANG

1934. Beitrag zur Kenntniss der Schlangenfauna des Kilimandscharo. (Tanganyika Territory, ehemaliges Deutsch-Ostafrika). Temminckia, Leiden, vol. 2, pp. 97-134 (113-115).